

**ABSTRACT OF THE DISCLOSURE**

In a wireless communication system, coded bits ( $Y_t$ ) and an interleaved version of the coded bits ( $X_t$ ) are separately modulated and transmitted. On the receiver side, a priori output probabilities produced by a probability generator (34) are combined (112) and then input to a SISO decoder (111). Combined a posteriori output probabilities (115) produced by the SISO decoder are split (113) and then fed back to the probability generator.